

ABSTRACT

An electrode catalyst that maintains catalytic activity under conditions of an electrode potential as high as 0.4 V or above and exhibits improved stability. The metal oxynitride electrode catalyst is composed of an oxynitride containing at least one transition metal element selected from the group consisting of La, Ta, Nb, Ti, and Zr, the metal oxynitride electrode catalyst being used at a potential of 0.4 V or higher relative to the reversible hydrogen electrode potential in an acidic electrolyte. The metal oxynitride electrode catalyst is useful as an electrode catalyst for electrochemical systems used in acidic electrolytes in the fields of water electrolysis, organic electrolysis, fuel cells, etc.